

ALTIMETRY OF LAKES FOR ALTIMETER EVALUATION AND MEASUREMENT OF WATER-LEVEL VARIATION

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Although designed for the ocean, a satellite radar altimeter will establish lock and track over moderate-sized (> 25 km diameter) lakes. The ability to establish lock depends on the characteristics of the altimeter and the lake. Temporal changes in the altimeter-derived lake levels are a combination of real water-level variation and altimeter error. If the change in lake level is known, the temporal variation of the altimeter error can be evaluated. We have developed a technique, which we have applied to GEOSAT and TOPEX/POSEIDON Great Lakes data, that accurately estimates temporal lake level/altimeter error variation. By removing the lake-level variation, short-term effects due to orbital maneuvers, as well as long-term trends, can be detected in the altimeter system performance. The same technique can be applied to moderate-sized lakes to monitor water-level variation.

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| | | 6. | N/A |
| 2. | Session G 1 -- Altimetry of Ice and Land | | |
| 3. | Conveners: Professor C. G. Rapley
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| 4. | N/A | | |